

PHILMONT *Mobile* RADIO CLUB INC.

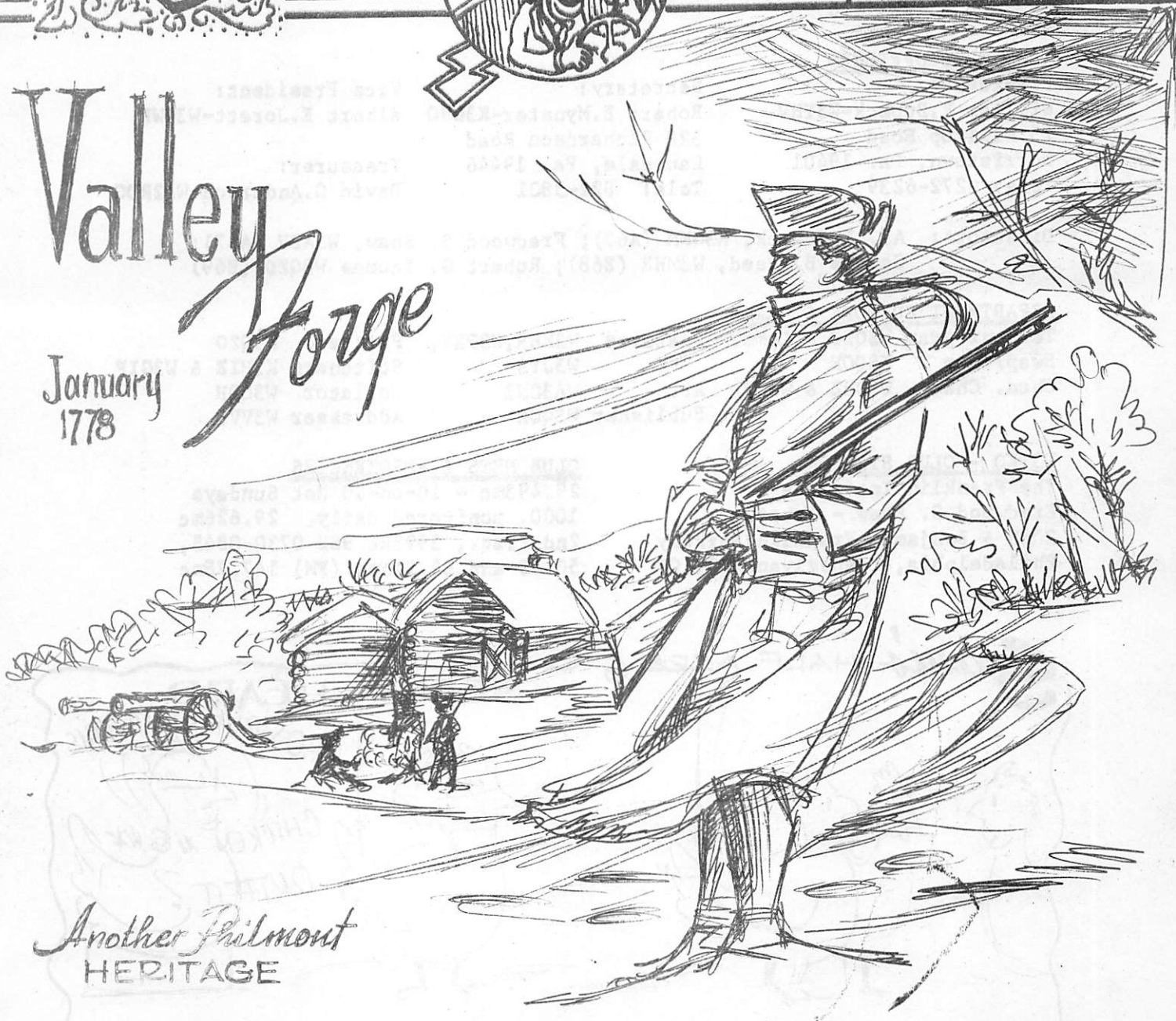
The **B L U R B**

AREA.
MEMBER



JANUARY
1967

Valley
Forge
January
1778



Another Philmont
HERITAGE

The BLURB is published monthly by and for the members of the Phil-Mont Mobile Radio Club. Our purpose is to further the interest of amateur radio in general and mobile radio in particular. We endeavor to keep the news accurate, interesting, and educational. Copying and quoting is permitted, with a credit line, and we gladly exchange subscriptions with other clubs.

DEADLINE: All material must be in the hands of the Department Editor before the 15th, as the BLURB is mailed on the last Monday of each month.

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DEPARTMENT EDITORS & HEADS

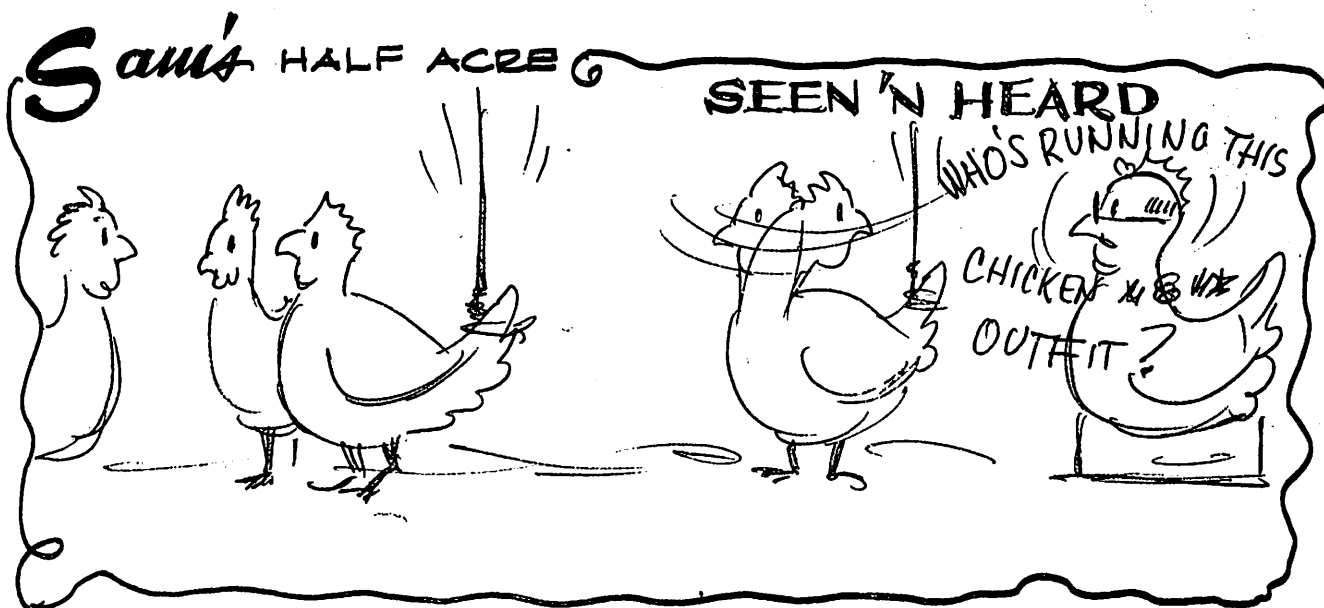
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Chan. Chat. W3CHZ & W3QV	Art WA3CNI	Collator W3QQH
	Publisher W3QQH	Addresser W3VVS

W3TKO - CLUB STATION

The Franklin Institute
Fredwood S. Shaw - Trustee
20th & Benjamin Franklin Parkway
Philadelphia, Pennsylvania 19103

CLUB NETS & FREQUENCIES

29.493mc - 10-on-10 Net Sundays
1000, monitored daily. 29.626mc
2nd Freq., 3993kc SSB 0730-0845,
50.70 and 52.525mc (FM) 147.78mc



THE PREZ SEZ

I would like to extend my thanks to those who supported the newly elected officers to lead Philmont during 1967. This vote of confidence will give us the impetus to provide an atmosphere where we will find the greatest amount of pleasure from our hobby.

Thinking back over last years activities, I feel much like one of the members of the canoe race relay team who had to jump into a spot vacated by an outstanding leader. I hope we can continue on the move with more and better things to do to make "67" another fine year for Philmont. This entails the help of many interested people to head up the various jobs that make up Philmont.

Your suggestions and participation will be most welcome. If you would like to be included where the action is, and get your dues worth, let me know.

DE W3YHV

JANUARY CALENDAR

January 9th - 8 p.m.	Monthly Meeting	Franklin Inst.
January 18th	Award Presentation (See insert)	" "
January 25th	Mid-Month Meeting	QTH W3ADV
January 30th	Blurb Folding	QTH W3QQH

The new Prez W3YHV, Bill Bubeck, has made the following appointment for director to fill those annual vacancies and the one spot caused by election. They are as follows:

W3ADV Fred Shaw

W3GOW Charles Greenwood

K3GNM Al Bubeck to fill the vacancy left by W3OWK now V.P.

PRESIDENT'S CITATION

The President's Citation will be made on January 18, 1967 at the Annual meeting of the Institute. The insert in this issue is both the announcement and an invitation to attend the dinner and meeting.

Read it carefully and if you want to attend, return it promptly as there is a limit to the number of people who can be accepted. There will be a number of Phil-Monters in attendance, how about you?

MARS NEWS

We just learned that "Frenchy" (A3IRS) W3IRS is Operations Officer for this area and doing a bang-up-job for the Army. Bob (A3WUX) W3WUX is doing F.B. handling RTTY Traffic. K3OEJ Art is in Air Force Mars. A new director for Navy Mars, Bob McLaughlin replaces Billy Gray who resigned. Bobs Navy Mars call is NØASD. Let us know about Philmont activities in Mars so we can report them in this column.

Sometimes you take your whip out of the mount. The plastic caps that come on the ungar soldering iron tips fit on the mount and keep out the dirt and water.

On your soldering gun tips (weller) the light does not always hit where you are soldering so turn your tips upside down (put the offset on the top). Try it and you will (see).

Used penlight cells. Take one, break it open, extract the carbon wash off the acid etc. Now if you are caught short for electric razor brushes you just file the batt carbon to shape.

I have an old fashioned refrigerator and each time we defrosted same we threw out the ice until I ran out of batt water and it dawned on me to melt the ice and put it in my batt water Jug.

If your S meter in your car has a habit of going off scale in noisey areas measure the voltage it takes, and adding a zener diode which I think would be cheaper and easier to install than a new S meter.

Don't know how to spell the word but I think this is serendipity.

AI W3OWK

AN ELECTION REPORT:

The 1967 Election at the December meeting came off in a smooth manner.

W3AWH John Tanaglia as judge of elections and his assistants W3QQH Jim Spencer and W3AHP Hal Rausch conducted a fine affair.

The attendance of 50 members and 3 visitors was the smallest attendance at any December I can recall.

The new officers as elected are on the inside cover and the results were as tabulated:

For President & Vice President on 1st ballot

W3GIF	4 votes	
W3OWK	17 votes	
W3YHV	29 votes	- declared elected as President by a majority.

For Secretary

K3WWO	43 votes	- majority for Secretary
K3WOC	7 votes	

For Treasurer

WA2RDC	40 votes	- majority for Treasurer
WA2SZF	10 votes	

For Director

K3GNM	13 votes	
K3OEJ	12 votes	No majority with K3OEJ to be dropped
W3QZO	25 votes	for 2nd ballot.

For Vice President on 2nd ballot

W3GIF	21 votes	
W3OWK	29 votes	- majority for Vice President

Director

K3GNM	12 votes	
W3QZO	37 votes	- majority for Director

Congratulations to the winners and we pledge you our support for a big 1967. (It's a shame they could not all be winners, but they'll be there just the same).

PHILMONT MOBILE RADIO CLUB, INC.

TREASURER'S REPORT FOR YEAR 1966

Balance on hand, General Fund, Dec. 31, 1965

\$ 441.70

Income

Dues	\$ 722.00	
Prize Drawing	81.75	
Chow Kitty	84.85	
Auctions	123.67	
Sale of Club Equipment	405.00	
Miscellaneous	856.50	
Banquet	720.00	
Donations	<u>50.00</u>	<u>\$3043.77</u>
		<u>\$3485.47</u>

Expenditures

Prizes	\$ 85.39	
Chow	63.53	
Com Vehicle Maintenance	190.79	
Com Vehicle Improvement	27.74	
Special Events	114.81	
Flower Fund	47.25	
Insurance	76.00	
Blurb Operation	242.11	
Miscellaneous	914.84	
Banquet	880.45	
Stationary	19.78	
Capital Improvement	2.37	
Franklin Institute Base Station	<u>10.00</u>	<u>\$2675.06</u>

Balance on hand, General Fund, Dec. 31., 1966

\$ 810.41

Capital Improvement Fund 12/31/65

\$ 405.25

Interest Received

11.18

Balance on hand, Capital Imp. Fund, Dec. 31., 1966

\$ 416.43

Total - December 31, 1966

\$1226.84

C.E. Greenwood, Treasurer
W3GOW

For your Directory

Add Ben Schaefer as published last month as he was accepted to membership at the December mid-month.

Change WB2SZF QTH to read

159 Briarwood Rd.
Ramblewood,
Moorestown, N.J. 08057

Tel. 609-235-5128

We wish Wayne lots of hamming in this new QTH that gives him a shack all his own.

Are you interested in having a Phil-Mont Mid-Month at your house? A call will be made at the January meeting for those volunteers. Speak-up now or at the meeting as there are only 12 spots available in a year. Not near enough to go around, but we want everyone to have a chance.

The audit and budget committees will have held and completed their meetings by the time this news reaches you. The scheduled date is December 28th. The committee list is not available at this date either, but the budget will be presented at the January meeting.

The boys in the Washington D.C. area are working on an East Coast Emergency net to operate on 7225 kc SSB. The purpose of this net is to assist mobiles along the east coast.

Rundy W3ZA is heading the effort. The west coast has one working F B according to reports. Look for them daily when on 40 meters and report on your findings.

W3IW Bob has been spending time in Lankenau Hospital with back problems. By the time you receive this report he should be fitted with a back brace and sitting up for his QSO's. Bob our best wishes are with you for better days ahead in 1967.

The Panorama for 1967 is set for August 11, 12 & 13th. Reserve the dates and join the fun.

OWAP & ENCL

Wanted - Minawh AR1
Marauder HA10
Warrior HA10

Anyone having these for sale call "Bud" Dahl K2EGF
609-757-2001

Wanted - G2S Conset

Tod Weinstein WA3GNR
8004 Thoreau St.
Phila., Pa. 19150 or call LI-9-8399

A by-product of the space research effort appears to be Electric cars. Through this effort better batteries are being developed that should make it practical to operate this new car.

I have mused, with interest, these facets - reduction of air pollution, reduction of noise - QRM (audible that is) and QRN - such as ignition. (hope the commutator is filtered by the mfg.); parking by a charging post, depositing a dollar for parking and charging your battery - that is (you can pass by all the gas stations); 48 volt battery to run the rig- hi - Those solid state linears should thrive on this; no oil fumes and no stick shift for the hot-rodder, hi. Well anyway what's next?

VISITORS AT THE DECEMBER MEETING

Two familiar faces made their appearance at the meeting, both xyl's and recipients of Lady-Phil-Mont awards. They were Elaine, xyl W3QQH and Dot, W3ZLE, xyl W3OWK. The third visitor was W3VXO Charlie Demico, the lone male visitor. He was among friends though as W3AES, Skinny brought him and many Phil-Monters have worked him and now had the pleasure of seeing him in person. A like pleasure was not Charlie's as he had to hear those he met as sight is one of the senses he has not been granted. He is a cheerful chap as you know and a pleasure to QSO.

To you visitors, we Phil-Monters extend a hearty welcome to join us soon again.

The meeting also brought some familiar faces to the scene that had been missed for sometime. Was so nice to see you, do it again regularly.

CHANNEL CHATTER:

or "Feedback" by K3RTR Asst. Editor.

W3DJW Jack Mahoney and W3OWK Al Jorett (our new V.P.) and their xyl's Peggy and W3ZLE Dot, spent an evening in Chinatown recently ending the evening with a parking ticket. Wonder who paid the fine?--

We hear that Jim Spencer W3QQH is quite an organ fixer. Have an organ that needs fixing? Call Jim. W3VVS Paul is still working on that mobile rig. It will be completed by Xmas - he hopes - W3AJ0 Kermit has an all band antenna so with a wet noodle for six he'll be in business.

Our Do-Nut man W3GIF (also known as the coffee man) is still pondering that hole in the fender for a mobile antenna. (Al - a do-nut looks good with a hole in it - why not a fender with a hole plugged with an antenna connected to a Phil-Mont mobile rig? The fender looks better with an antenna anyway. Al was also a presidential candidate. You know Al, bet the boys got to worrying about "who will take care of the coffee and donuts" if you are elected. There's nothing like that good coffee and donuts after the meeting.

It was nip and tuck all the way between the Old Wooden Keg and the Do-nut and Coffee Maker. All in all a very fine and spirited election.

The only LANDSLIDE was for our secretary who won handily. Guess Doc got caught in a snow storm while hunting and didn't get back to hand out cigars. Some guy left his rig on all nite and that transistorized thing didn't hurt the battery either. Ask Jon W3AES about this. Could it be a sales pitch? W3IWO, Mel needed a clean shirt for an interview but mother put them away and Mel couldn't find them. Oh well - an old one had to do. K3RAB, Winnie turned the tables on Russ K3NYN one rainy day. She gave him instructions to get to the cleaners and got him lost - better watch that Russ. K3OJA Walt found a good mobile spot in Lawrence Park where he claims he can get out. (Is this a spot where he can park his mobile and get out - guess he better park before he gets out - oh you say you can hear him from there?)

FEEDBACK BY K3RTR SAM

Who was the guy who split his vote - that is tore his ballot in half - we had one write-in vote for W3AWH for director but it was too late to start the campaign. There has been talk for an investigation on the campaign expenses brought on by that huge banner "VOTE FOR BALDY BILL" that was paraded around the hall by his campaign committee. It surely was the "Old Campaign Spirit".

CHANNEL CHATTER (Cont'd)

The recent meetings brought several discussions on the present operation of Phil-Mont mobiles. W3NIP Chuck "The Nipper" and W3YHV "Baldy Bill", now your president, contend that 50% of Phil-Mont mobiles are on simple sideband and ancient modulation has seen its best day. It sure provides us with some timely discussions even if we don't prove a thing.

THE HALLOWEEN PATROL

Police Chief Saffren of Newtown Square again requested assistance on Mischief Nite. Four Phil-Mont mobiles responded. A portable station was set up in Police Headquarters operated by yours truly W3CDY. The mobiles responding were, Jon Balch W3AES; Bill Richards W3FTZ; Al Roland W3JIL and last alphabetically, but old stalwart Al Jorett W3OWK. Auxiliary policemen rode with the mobiles while we monitored the frequency. A typical instance of the evening was a human chain of Junior spooks blocking a roadway. The approaching car, carrying an auxiliary policeman and a Phil-monster came to a halt at a safe but convenient distance. From the passenger side of the car alights the policeman. Without even saying "spooks", the human chain of Juniors, disappears as spooks do - not to be seen again for the night. All in all its all in fun.

Chief Saffren expressed his thanks for the help from the above mentioned Phil-monsters and to K3KFL for the use of a rig to replace the one that failed as a base.

An official request from Springfield Township was received for the Comm Truck to appear in a Civil Defense Parade in Media, Delaware County.

Bob W3OEC made their wishes known and the Comm Truck was shifted to Newtown Square as a first step. Battery problems appeared likely and sure enough on Friday evening - no luck - or no start. Through the kind consideration of a friend a new battery was installed and the Comm Truck took its place as planned, with W3OEC piloting it on its last leg to the parade.

de W3CDY

TECHNIGRAM -

Transistors for Hams - Part VII - Bob Thomas, W3QZO

The design of any amplifier involves two basic considerations: a-c (signal) conditions, which were discussed in the November issue, and bias conditions, which were described in general last month. Fig. 1 shows the a-c circuit with a gain equal to the ratio of the collector and emitter resistors, or 20 in this case. It is still necessary to furnish additional circuitry to bias the transistor with a direct current to permit linear amplification. In summary, it was explained last month that the aim of bias is to develop equal d-c voltage drop across the transistor and across the collector load resistor in order to permit largest possible undistorted output. The method we shall use is to start at the output circuit, where the bias is required, and work toward the input circuit, where the bias is developed.

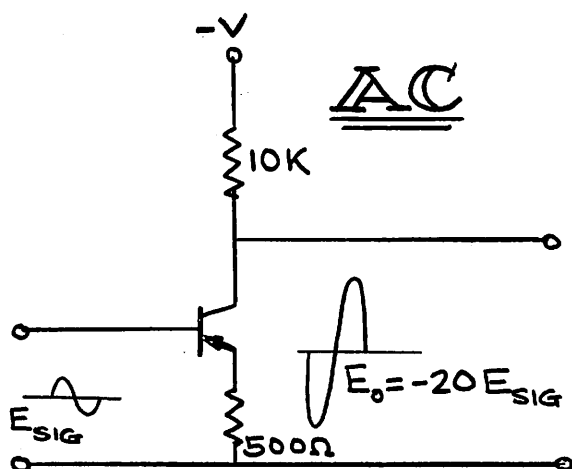


FIGURE 1.

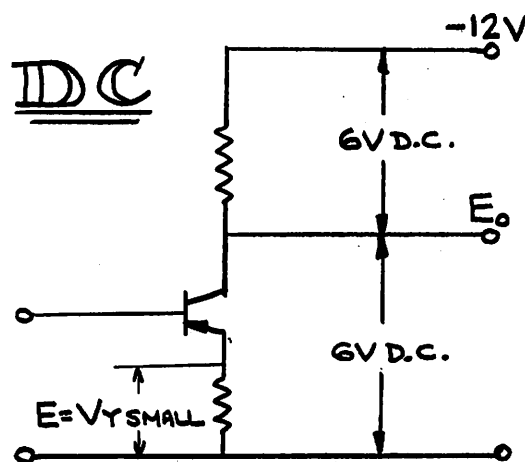


FIGURE 2.

With a 12 volt power supply, six volts should appear across the transistor and there will be a six volt drop across the $10K$ collector load resistor as shown in Fig. 2. (For the moment ignore the voltage drop across the emitter resistor - it is only 2.5% of the supply voltage). The only way for a $10K$ resistor to develop a 6 volt potential is for a current of 0.6 ma. to flow; and the only place the current can come from is out of the collector. Remember that the collector current is almost the same as the emitter current, so if we squeeze 0.6 ma. into the emitter, 0.6 ma. must ooze out of the collector. "But Holy Transistor, Batman, where are we going to get a 0.6 ma. emitter current?" The easiest way to get it is to force a voltage drop of 0.3v across the 500 ohm emitter resistor by operating the transistor as an emitter follower. You will recall (hopefully) that in an emitter follower, the emitter voltage follows whatever voltage we put on the base, so if we put 0.3V d-c on the base, the emitter will be at 0.3V, and proper bias current will flow into the emitter and on the collector circuit. Actually, it is an oversimplification to say the emitter will be exactly the same as the base

TECHNIGRAM (Cont'd)

voltage; there is a 0.1V drop between base and emitter, so in the example here, since we want 0.3V across R_E , the base must be 0.4V as shown in Fig. 3.

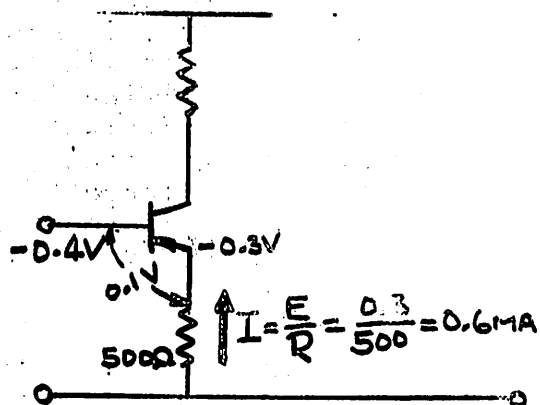


FIGURE 3.

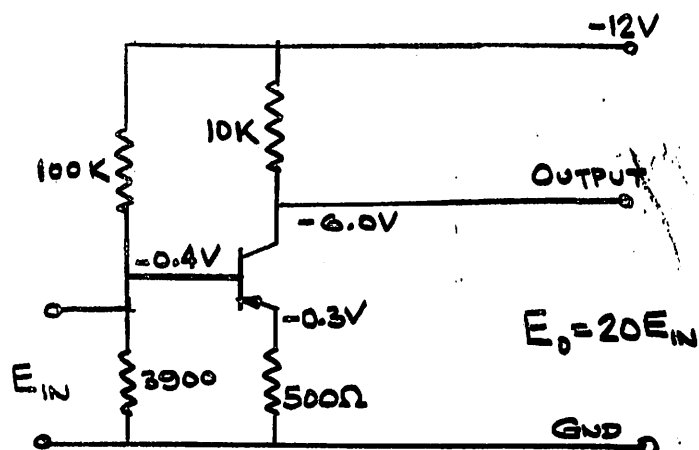


FIGURE 4.

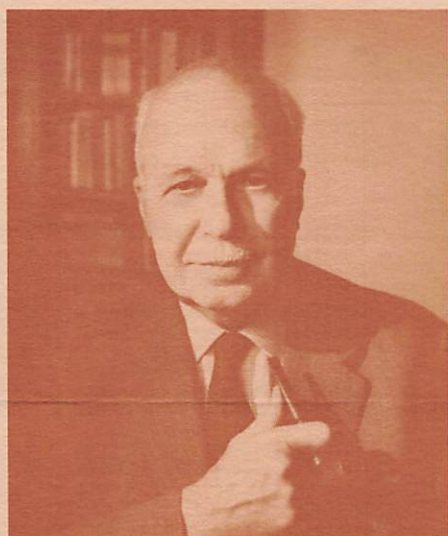
The best way to develop the 0.4V bias voltage is by means of a voltage divider with each resistor equal to about 10,000 ohms per volt. Therefore, as depicted in Fig. 4, the lower resistor will be $0.4 \times 10,000 = 4000$ ohms. The upper resistor would be $11.8 \times 10,000 = 118K$, but it should be made slightly smaller to allow for base current. Use 100K as shown in Fig. 4, the complete amplifier.

A voltage divider in the base in conjunction with a resistor in the emitter aids in stabilizing the d-c operating conditions since any unusual tendency for an increase in collector current (such as might be caused by high temperature) will try to raise the emitter voltage, thus changing emitter-base bias in a direction to counteract the original increase. For this reason, a transistor amplifier should ALWAYS incorporate an emitter resistor despite what you might see to the contrary in various popular magazines. Without this precaution it is only too easy for a transistor to start drawing a little too much current causing its temperature to rise, which makes it draw even more current until it finally becomes saturated (appears as a short circuit), and no longer amplifies.

A word about that 0.1V base-emitter potential: This value is typical in this case because the collector current is rather low; the base-emitter voltage is typically 0.1 to 0.3 volt for germanium transistors and 0.5 to 0.8 volt for silicon. A little experience is needed in choosing an exact value but you can guess close enough for a first try.

Finally, remember that NPN transistors may be substituted for PNP by reversing all polarities.

Sir Lawrence Bragg, Retired Scientific Director
of the Royal Institution, London, England,
will be our Charles S. Redding Lecturer at the Annual Meeting
of The Franklin Institute, on January 18, 1967.



SIR LAWRENCE BRAGG ... 50 YEARS OF RESEARCH

X-ray analysis, which is the scientist's way of discovering the manner in which atoms are arranged in all kinds of matter, has played a vital role in molding scientific conceptions of the 20th century.

In 1915, Sir Lawrence Bragg shared the Nobel Prize with his father, the late Sir William Henry Bragg*, then Professor of Physics at Leeds University, for their work on x-rays and crystal structure. Sir Lawrence, who can now claim some fifty years research in this and related fields, is thus uniquely equipped to speak on the dramatic changes in modern scientific outlook.

In the Charles S. Redding Lecture at The Franklin Institute on January 18, 1967, Sir Lawrence will reminisce about his half century of research experiences. He will trace the start of x-ray analysis to the "neutral pair" theory of x-rays and γ -rays put forward by his father. He will discuss his own work in the interpretation of V. Laue's experiments in x-ray diffraction, and in crystal structure. Finally, he will indicate how x-ray analysis has influenced fundamental ideas in such diversified fields as inorganic chemistry, the chemistry of alloys, and biochemistry.

Australian-born Sir Lawrence holds a degree in Honours Mathematics from Adelaide University, in Honours Physics from Cambridge University, and several honorary doctorates. During World War I he worked on a method of discovering the position of enemy guns by sound. This method, which was later adopted by the American army, will be discussed by Sir Lawrence in his lecture at the Institute.

After the war, Sir Lawrence was for 19 years Professor of Physics at Manchester University. Following an interlude of one year as head of the National Physical Laboratory, he served as Cavendish Professor of Experimental Physics at Cambridge from 1938 to 1953. He became Scientific Director of the Royal Institution in London in 1954, and retired from that position this year.

Sir Lawrence is presently conducting research into the structure of protein, and he is also active as a writer and lecturer.

** In 1930 Sir William received The Franklin Medal, highest honor of The Franklin Institute, for his study of "X-rays and radio-activity."*

RECEPTION

6:30 p. m.

DINNER

7:00 p. m.

LECTURE

8:15 p. m.

INFORMAL DRESS

Director of Meetings, THE FRANKLIN INSTITUTE

20th Street & Benjamin Franklin Parkway, Philadelphia, Pa. 19103

Wednesday, January 18, 1967

1. Reserve _____ seat(s) in Lecture Hall.
2. Enclosed is check for \$_____ payable to The Franklin Institute for _____ dinner reservation(s) at \$4.50 per plate.

Name _____

Address _____

Please print

Members of the Institute, their families, and their guests are cordially invited to attend the lecture (at no cost) or the dinner and lecture (at \$4.50 per plate), but reservations are necessary in either case. Reservations will be acknowledged.

If you order tickets and are unable to come, please let us know in time to give them to someone else. For further information about the Meetings program, please call 448-1288.

Please List Dinner Guests On Reverse

Sponsoring a series of Lectures by outstanding scientists, engineers, and industrialists as a service to members of the Institute and a part of the Institute's program to advance science and science education.



FREE EVENING PARKING is available in the Institute's parking lot, entrance on 21st Street (please enter Institute through rear door). Taxis use Winter Street (north) entrance.

THE FRANKLIN INSTITUTE
Benjamin Franklin Parkway at Twentieth Street
Philadelphia, Pennsylvania 19103

An Invitation

to attend the Annual Meeting
of The Franklin Institute

on January 18, 1967

Peter Geyelin, Secretary